APPLICATION OF THE PROJECT-BASED LEARNING MODEL TO IMPROVE STUDENT LEARNING OUTCOMES IN MIN 5 MEDAN

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Abstract
The learning process cannot be separated from assessment; if it is carried out well, it will get good grades. So that the learning process is carried out well, choose the suitable learning model in the 21st-century era. Because the learning model becomes a design pattern that aims to achieve learning objectives, student learning outcomes get excellent grades. The purpose of the study was to improve Pancasila and Civics education outcomes in aspects of spiritual attitudes, social attitudes, knowledge, and skills of students by applying PjBL learning models in material about obligations, rights, and responsibilities as citizens. The research subjects were class 6-A MIN 5 Medan students, 27 people. This research uses Kurt Lewin's classroom action research method. They collect data using tests, observations, and interviews. Data were analyzed descriptively with qualitative and quantitative approaches assisted by STATCAL software. The study's results proved that students experienced an increase in their learning outcomes with a value of 88.88% in cycle III through applying the PjBL learning model.

***Keywords**: learning outcomes, learning model, 21st-century skills, PjBL, Pancasila and civic education.*

Abstrak
Proses pembelajaran tidak dapat dipisahkan dengan penilaian, jika proses pembelajaran dilakukan sangat baik, maka akan memperoleh nilai yang baik pula. Agar proses pembelajaran dilakukan dengan sangat baik, maka pilih model pembelajaran yang tepat di era abad 21. Sebab, model pembelajaran menjadi pola rancangan yang bertujuan agar tujuan pembelajaran tercapai dan hasil belajar siswa mendapat nilai sangat baik. Tujuan penelitian untuk meningkatkan hasil belajar PPKn pada aspek sikap spiritual, sikap sosial, pengetahuan, dan keterampilan siswa dengan menerapkan model pembelajaran PjBL pada materi pokok tentang kewajiban, hak, dan tanggung jawab sebagai warga negara. Subjek penelitian adalah siswa kelas 6-A MIN 5 Medan yang berjumlah 27 orang. Riset ini menggunakan metode penelitian tindakan kelas model Kurt Lewin. Pengumpulan data menggunakan tes, observasi, dan wawancara. Data dianalisis secara deskriptif dengan pendekatan kualitatif dan kuantitatif berbantuan *software* STATCAL. Hasil penelitian membuktikan bahwa siswa mengalami peningkatan hasil belajarnya dengan nilai 88,88% di siklus III melalui penerapan model pembelajaran PjBL.

Kata kunci: hasil belajar, model pembelajaran, pembelajaran abad 21, PjBL, PPKn

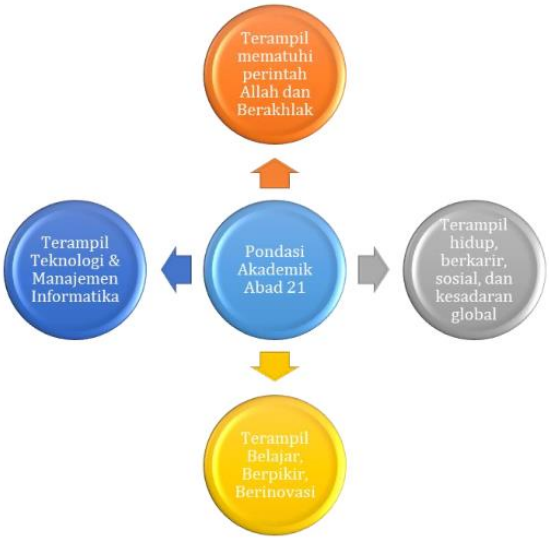
INTRODUCTION

The Minister of Education, Culture, Research, and Technology of Republic Indonesia has issued Regulation Number 16 of 2022 concerning Process Standards for Early Childhood

Education, Basic Education Levels, and Secondary Education Levels. The contents of the regulation are precisely in Article 9, paragraph 1 that the implementation of learning is carried out in a learning atmosphere that is interactive, inspiring, fun, challenging, motivating students to participate actively and providing sufficient space for the initiative, creativity, independence according to their talents, interests, and abilities, and physical development, as well as psychological of students.

Human resources in the 21st century must have various skills and competencies to compete in the era of globalization. Developing skills and competencies in the 21st century is about acquiring skills and progress (Pramesti et al., 2022). The development of science and technology in the 21st century requires every individual to think critically, systematically, logically, creatively, and carry out social interactions well (Abidin, 2020).

Increasing knowledge and skills should be one of the crucial goals in the 21st century so that educators create a learning environment in the form of a classroom environment that helps students develop not only knowledge but also skills (Rahayu & Putri, 2021). Skills that are very important and needed today contain 21st century competencies or what is often referred to as 4C competencies (Critical thinking, Creative, Collaboration, and Communication). These competencies were designed by the Ministry of Education and Culture in schools to instill character education because by fostering character, students can think critically, and creatively, communicate and collaborate in the 21st century (Agustina et al., 2022). For this reason, educators must strengthen the academic foundation for students in the 21st century. The foundation in question can be seen in Figure 1.



Source: Yunianto et.al. (2020)

Figure 1. 21st Century Student Skills in the 2013 Curriculum

Based on Figure 1, there are four kinds of academic foundations of the 21st century that educators should own and taught to students, namely: (1) skilled in obeying the commands of Allah Swt and being moral; (2) skilled career, social, and global awareness; (3) skilled in learning, thinking, and innovating; (4) skilled in technology and informatics management. This is in line with Law number 20 of 2003 concerning the National Education System, also related to the core competency standards in the 2013 curriculum that students in their learning must have a spiritual attitude, social attitude, knowledge, and skill. So an educator must be serious about instilling these competencies in students, especially at the basic education level (SD / MI).

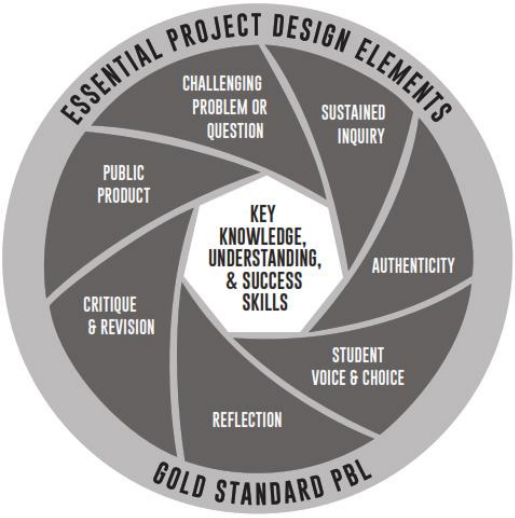
Primary education is the first step that determines the direction of development. Students will be given initial provisions from cognitive, character, and skill aspects (Hidayah & Yuliawati, 2021). This is in line with Soviawati's statement that SD/MI students have a character that cannot think abstractly, so they need learning that can provide an accurate description or direct experience for them to understand. In addition, elementary school-age children also like physical activity, so they will be excited to learn to understand the material if the learning process can accommodate physical activity for exploration and creativity (Permatasari et al., 2020). Kolb once stated that the learning process occurs when students carry out concrete experiential steps, reflective observation, abstract conceptualization, and active experimentation iteratively (Radović et al., 2021; Biabani & Izadpanah, 2019; Parahakaran, 2017; Falloon, 2019).

The learning process cannot be separated from assessment, and if the learning process is carried out very well, it will get good grades. For the learning process to be carried out very well, choose the right learning model in the 21st century. This is because the learning model is a design pattern that aims to achieve learning objectives and student learning outcomes and get very good grades. Mustika & Ain (2020) said that accuracy is needed in choosing a learning model so that it can help achieve learning objectives and help students improve their academic and non-academic abilities.

According to Lubis & Azizan (2020), the learning model is a way for teachers to carry out a lesson so that the concepts presented can be understood by students. So, according to Bell, one of the innovative learning strategies in 21st century that has resulted in success is Project-Based Learning (PjBL) (Safaruddin et al., 2020). The PjBL learning model comes from constructivism theory (Rais et al., 2021; Rati & Rediani, 2021) through the principles of learning by doing (Isa & Azid, 2021), and this is the idea of John Dewey (Lubis, Hamidah, et al., 2022).

PjBL is learning through the process of completing a project over some time (Stanley, 2021; Ardianti & Raida, 2022). PjBL is an appropriate learning model which can shape students' scientific, social and higher-order thinking behavior. Implementing PjBL in teaching and learning gives students the freedom to plan learning activities, carry out projects collaboratively, and be able to produce products (Putri et al., 2021). Meanwhile, according to Krajcik & Czerniak (Krajcik & Czerniak, 2018), PjBL is a teaching methodology that involves students in the learning process and encourages their curiosity to investigate meaningful and relevant real-world questions or problems (Alrajeh, 2020).

The PjBL learning model is believed to have a very good influence on students' learning motivation, as has been proven by Sakilah et al. (2020) in their research in class V of SD Negeri 167 Pekanbaru. Therefore, an educator must understand the essential elements before implementing PjBL. The essential elements in question can be seen in figure 2.



Source: Larmer et al. (2015)

Figure 2. Essential Project Design Elements

Figure 2 shows that there are seven essential elements in PjBL, namely: (1) a challenging problem or question, (2) sustained inquiry, (3) authenticity, (4) student voice and choice, (5) reflection, (6) critique and revision, and (7) a public product. These seven elements are essential to be applied by educators to achieve learning in the 21st century.

Based on previous research that has been done related to the application of the PjBL learning model, it is necessary to conduct research at SD / MI located in Medan City to improve student Civics learning outcomes.

METHODS

The method in this research is classroom action research (CAR). The CAR research method is reflective based on actual conditions, which are then searched for problems and followed up by concrete actions planned and measurable (Suwandi, 2009). The CAR method is carried out by lecturers through self-reflection, both inside and outside the classroom. It is designed to improve teacher performance and student learning outcomes (Wardani, 2004, hal. 14).

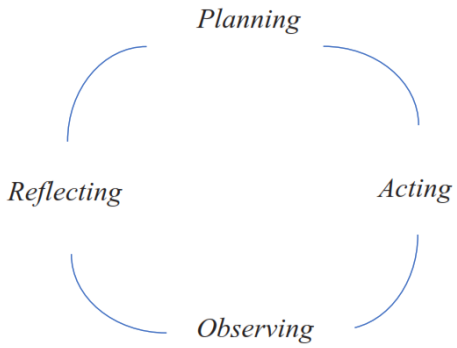
The planned action is in the form of implementing the PBL learning model to improve student learning outcomes. The research subject was class 6-A MIN 5 Medan, consisting of 15 women and 12 men. The school's location is on Jalan Cileduk No.12, Belawan II, Medan City, North Sumatra. The research was carried out from September to October 2022. This research

focused on Thematic Learning, the theme of Figures and Inventions, the sub-themes of Inventors Who Changed the World (2nd, 4th, and 6th learning), Civics subjects, the primary material on obligations, rights, and responsibilities as citizens.

The data collected are as follows: (1) tests, which are instruments used to measure students' knowledge abilities (Arikunto, 2005). The tests in the form of limited descriptions are worked out on each cycle; (2) observation is carried out to see the research object (Salim & Syahrum, 2012). The observation in question is observing all learning activities that occur during repairs. Observations were carried out unstructured, which means that they did not use guidelines; (3) interviews were conducted with teachers and students. The interview used was unstructured, which means that they did not use guidelines.

The data analysis techniques used in this research are namely qualitative and quantitative data analysis. Qualitative data analysis reduces data, including data selection through brief descriptions and grouping data into predetermined qualifications. Conclusions are drawn based on the results of all the data obtained from the reduction of data. The conclusion of the increase or change that occurred is summarized in the reflection of the cycle I, and cycle II, and the conclusion at the end of cycle III. Meanwhile, quantitative data analysis provides an overview of increasing material understanding of obligations, rights, and responsibilities as citizens. Quantitative data analysis was obtained from the results of cycles I to III, assisted by STATCAL software.

This research chose Kurt Lewin's CAR model. The procedure for implementing Kurt Lewin's CAR model can be seen in Figure 3.



Source: Firdaus et.al. (2022)

Figure 3. Kurt Lewin Model Classroom Action Research Procedure

Figure 3 shows that Kurt Lewin's CAR model is carried out in three cycles, each cycle

consisting of four steps, namely: (1) planning, (2) acting, (3) observation, and (4) reflection (McNiff & Whitehead, 2006; Stringer et al., 2010; Kemmis et al., 2014; Kunandar, 2011). The duration of the implementation of the two cycles is around one month. The success and completion of student learning outcomes in this research were set at at least 80, and this aims to increase learning. Specific criteria for scoring refer to the range of scores of 80-100 (very good), 66-79 (Good), 56-65 (adequate), 40-55 (poor), and <30 (very poor) (Arikunto, S., 2018). At the same time, classical completeness has a minimum score of 80, which consists of an assessment of spiritual attitudes, social attitudes, knowledge, and skills.

RESULTS AND DISCUSSION

The research was carried out in 3 meetings consisting of the cycle I, II, and III. The action of the PjBL learning model was applied until cycle III because at the time of the first and second cycles, the learning outcomes were not as expected, which was still less than 80, which consisted of an assessment of spiritual attitudes, social attitudes, knowledge, and skills. The results of the research during cycles I-III are described as follows.

Cycle I

The implementation of the first cycle will be on September 6, 2022. Student learning outcomes after applying the PBL learning model are presented in table 2.

Table 2. Frequency of Student Learning Outcomes in Cycle I

Score	Frequency	Percentage	Category
80-100	8	29,62%	Very good
66-79	10	37,03%	Good
56-65	8	29,62%	Enough
40-55	1	3,70%	Poor
< 30	0	0%	Very poor
Amount	27	100%	

The data in the first cycle based on table 2 shows that 8 students (29.62%) obtained learning outcomes in very good category, 10 students (37.03%) in the good category, and 8 students (29.62%) in the moderate category, and 1 student (3.70%) is categorized as less. At the

same time, the percentage of student learning completeness can be seen in table 3.

Table 3. Analysis of Student Learning Outcomes in Cycle I

Student Learning Completion	Number of Students	Percentage
Complete	8	29,62%
Incomplete	19	70,38%
Amount	27	100%

The results of the analysis of student learning mastery shown in table 3 concluded that from a total of 27 students, 8 students completed (29.62%) and 19 students who did not complete (70.38%). Learning in cycle 1 has not yet reached the target of classical completeness. When the observations were made, the students did not look completely serious in listening to the researcher's explanation. During interviews with students after the lesson, some students whose grades were incomplete said that the subject matter had not been understood. Therefore, it is necessary to make improvements again in cycle II by making the learning atmosphere fun, such as inviting students to work together in groups to write down their rights and obligations when the researcher gives assignments.

Cycle II

The implementation of cycle II will be on September 8, 2022. The learning in cycle II improved the planning and the learning process, namely by observing the sellers in front of the school. Previously the students were divided into groups. Then the students write down the results of their observations on the rights and obligations of the sellers in front of their schools. Then the researcher gave a conclusion to the observations. Furthermore, an assessment is carried out and the results are presented in table 4.

Table 4. Frequency of Student Learning Outcomes in Cycle II

Score	Frequency	Percentage	Category
80-100	17	62,96%	Very good
66-79	10	37,04%	Good
56-65	0	0%	Enough
40-55	0	0%	Poor
< 30	0	0%	Very poor
Amount	27	100%	

The data in the second cycle based on table 4 shows that 17 students (62.96%) obtained learning outcomes in the very good category and 10 students (37.04%) in good category. At the same time, the percentage of student learning completeness can be seen in table 5.

Table 5. Analysis of Student Learning Outcomes in Cycle II

Student Learning Completion	Number of Students	Percentage
Complete	17	62,96%
Incomplete	10	37,04%
Amount	27	100%

The results of the analysis of student learning mastery shown in table 5 concluded that out of a total of 27 students there were 17 students completed (62.96%) and 10 students not completed (37.04%). Learning in cycle II has increased but has not yet reached the classical mastery target. When the observations were made, the students were very enthusiastic about doing the tasks given by the researcher. When interviewing the students after the lesson was over, some students whose grades were incomplete said they still did not understand the material. Therefore, it is necessary to make improvements in cycle III by making the learning atmosphere more exciting so students can more easily understand the subject matter.

Cycle III

The implementation of the third cycle will be on September 10, 2022. Learning in the third cycle was improved in planning and the learning process, namely, students wrote down their rights and obligations as the Indonesian nation. Then the researchers tried stimulating students by showing educational videos about commendable behaviors related to rights, obligations, and responsibilities. Then students practice and write down conclusions in the form of concept maps and present their conclusions in front of the class. Furthermore, an assessment is carried out, and the results are presented in table 6.

Table 6. Frequency of Student Learning Outcomes in Cycle III

Score	Frequency	Percentage	Category
80-100	24	88,88%	Very good
66-79	3	11,12%	Good
56-65	0	0%	Enough
40-55	0	0%	Poor
< 30	0	0%	Very poor
Amount	27	100%	

The data in the third cycle based on table 6 shows that 24 students (88.88%) obtained learning outcomes in the very good category and 3 students (11.12%) in good category. At the same time, the percentage of student learning completeness can be seen in table 7.

Table 7. Analysis of Student Learning Outcomes in Cycle III

Student Learning Completion	Number of Students	Percentage
Complete	24	88,88%
Incomplete	3	11,12%
Amount	27	100%

The results of the analysis of student learning mastery shown in table 7 concluded that out of a total of 27 students, there were 24 students who completed (88.57%) and 3 students who had not completed (11.12%). Learning in cycle III has improved according to the classical mastery

target. When the observations were made, students were very enthusiastic about learning. During interviews with students after the lesson was over, some students whose grades were completed said they were pleased to learn if they watched the video and practiced it. Meanwhile, students who did not complete the stated that they needed time to re-understand the subject matter.

Student learning outcomes in Thematic Learning, the theme of Figures and Inventions, the sub-themes of Inventors Who Changed the World (2nd, 4th, and 6th learning), Civics subjects, primary material on obligations, rights, and responsibilities as citizens based on the value of cycle I , cycle II, and cycle III had an increase. To see the results of the increase can be seen in Figure 4.

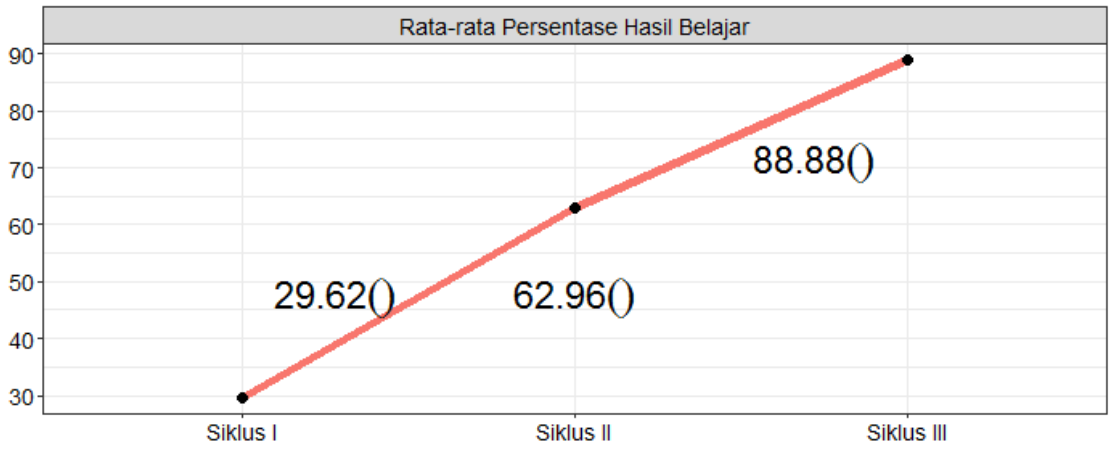


Figure 4. Classical Average of Student Learning Outcomes

Figure 4 shows that student learning outcomes have improved in each cycle. In Cycle I, the percentage of students complete learning outcomes was 29.62% (8 students were completed, and 19 students were not completed), then increased in the second cycle with a score of 62.96% (17 students were completed, and 10 students were not completed), then increased again in the third cycle with a score of 88.88% (24 students completed and 3 students incomplete).

The research results have shown an increase in student learning in terms of spiritual attitudes, social attitudes, knowledge, and skills. This proves that there is an improvement from before. This is an expectation that students should be faithful, moral, intelligent, and skilled as required by Law No. 20. the Year 2003 on the National Education System of Education. This means that the values of Pancasila are increasingly imbued with students. Therefore, the teaching Pancasila and Civic Education (PPKn) to elementary school /MI students is expected to be able to understand, analyze, animate, and overcome the problems faced sustainably and consistently

based on the ideals and goals of the Indonesian nation (Lubis, Sabri, et al., 2022).

In the learning process using the PjBL model, students are required to work together in groups, share ideas and develop a timeline of projects assigned to be completed on time (Sari & Prasetyo, 2021). As a result, it can bring positive values to students' creativity and learning outcomes, as proven by Nazua & Aisyah (2021) in their research that PjBL affects the creative thinking abilities of fifth-grade students at SDN Sukanagara. Furthermore, Simbolon & Koeswanti (2020) also proved in their research that the PjBL learning model could improve student motivation and learning outcomes. The results of research by Fahrurrozi et al. (2022)also prove that implementing the PjBL model in SBdP learning provides many positive benefits for students and teachers. In other words, the PjBL model can optimize SBdP learning in SD/MI.

PjBL provides real experiences that enable students to solve problems well (Lukitasari et al., 2021). In addition, PjBL refers to learning through project activities and systematically producing innovative products and learning that supports students in self-development (Rupavijetra et al., 2022). Projects can be used to make students learn something (Muhammad, 2020). When students undertake projects, the learning they get meaning that is meaningful in their experiences. This is evidenced by Nurhayati & Fauzan (2021) in their research that after the PjBL learning model was applied, the learning meaningfulness of class V students at SDN Pereng, Prambanan District, Klaten Regency increased.

Learning in the 21st century aims to improve students' skills from the aspects of critical thinking, creative thinking, working together, and communicating. This can be seen in table 8.

Table 8. 21st Century Learning and Innovation Skills

Description of learning and innovation skills	1. Critical thinking and problem solving: students can use various reasons (reasons), such as inductive or deductive, for various situations, use systems thinking, make decisions, and solve problems. 2. Communication and collaboration: students can communicate clearly and collaborate with other group members. 3. Creativity and innovation: Students can think creatively, work creatively, and create innovations.

Source: Marhaeni, Dantes, & Astawa (Fauzan et.al., 2020)

The learning and innovation skills in the 21st century shown in table 8 describe that students must be able to think high-levelly, creatively, collaborative, and communicative to compete in the future. For this reason, the PjBL learning model affects 21st century learning skills, as the results of research by Astiar et.al. (2020) proved that the PjBL modelaffectsn students' speaking skills. PjBL also facilitates students to collaborate on conceptual understanding, apply previous knowledge, and gain skills (Ummah et al., 2019).

CONCLUSION

The learning outcomes of grades 6-A MIN 5 Medan students on Thematic Learning, the theme of Figures and Inventions, sub-themes of Inventors Who Changed the World (2nd, 4th, and 6th learning), Civics subject, a subject matter about obligations, rights, and responsibilities as citizens have increased after the implementation of the PjBL learning model.

Student learning outcomes are improved from the data obtained in each cycle. In Cycle I, the percentage of classical completeness of student learning outcomes was at a score of 29.62% (8 students completed and 19 students have not been completed), then increased in cycle II with a score of 62.96% (17 students completed and 10 students have not been completed), then increased again in the third cycle with a score of 88.88% (24 students completed and 3 students have not been completed).

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